

ABSTRACT

A method of increasing shale formation stability with a water based drilling fluid, the method including: delivering to the shale formation a drilling fluid formulated to include an aqueous fluid; a first reactant which is a soluble monomer, oligomer, or polymer with exposed ketone, aldehyde, or aldol groups or with groups which can be shifted to ketone or aldehyde functionality; and, a second reactant which is a primary amine, diamine, or polyamine which by condensation reaction forms a semi-soluble or precipitated filming product with the first reactant.